

APPENDIX F: Stormwater Management Supporting Documentation

Prysmian Brayton Point

Somerset, Massachusetts

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Checklist for Stormwater Report



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of “country drainage” versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): Vegetated sand filter basins

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

To be provided in final Conservation Commission submission



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm. **To be provided in final Conservation Commission submission**
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided. **To be provided in final Conservation Commission submission**
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas. **To be provided in final Conservation Commission submission**

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
- Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
- is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas **Shellfish Growing Area**
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
- The Required Water Quality Volume is reduced through use of the LID site Design Credits.
- Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

**To be provided
in final
Conservation
Commission
submission**



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

To be provided
in final
Conservation
Commission
submission

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

To be provided
in final
Conservation
Commission
submission

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report. **Shellfish growing area**



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
 - Redevelopment Project
 - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

To be provided
in final
Conservation
Commission
submission

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

To be provided
in final
Conservation
Commission
submission

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

To be provided
in final
Conservation
Commission
submission

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

To be provided
in final
Conservation
Commission
submission

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.



Stormwater Management Narrative

This Stormwater Report has been prepared to demonstrate compliance with the Massachusetts Stormwater Management Standards in accordance with the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) and Water Quality Certification Regulations (314 CMR 9.00). This report also demonstrates compliance with the Town of Somerset, Stormwater Management Regulations, dated June 8, 2021 for stormwater design and mitigation.

Project Description

The Applicant, Prysman Projects North America, LLC, is proposing to construct a new state-of-the-art cable manufacturing plant (the Project). As proposed, the Project consists of 800,000± square feet of building footprint, ancillary landscape improvements, parking spaces, and utility improvements to support this use.

The Project includes the storage and maintenance of industrial machinery and equipment and is therefore considered a Land Use with Higher Potential Pollutant Loads (LUHPPL).

Site Description

The Project Site is a 47-acre parcel of land (the Site) located at the former Brayton Point Power Station in Somerset, Massachusetts (see Figure 1). The Site lies within the surface watershed of Mount Hope Bay and is bounded by the former Brayton Point Power Station and National Grid substations to the north, Mount Hope Bay to the south, the Taunton River to the east, and the Lee River to the west. See Figure 1.1, Site Location in the attached Appendix.

There are wetland resource areas on the Site and the Project will include work within areas regulated by the Wetlands Protect Act. According to the National Resources Conservation Service (NRCS), surface soils on the Site are solely Urban land without a Hydrologic Soil Group classification. Based on the soil evaluation and NRCS soil mapping included in the Appendix, on-site soils are classified as Hydrologic Soil Groups (HSG) C and D with bedrock prevalent throughout. The Site is not considered to be within an area of rapid infiltration (soils with a saturated hydraulic conductivity greater than 2.4 inches per hour).

Existing Drainage Conditions

Under existing conditions, the Site has generally flat topography and is comprised of crushed concrete and other debris from the decommissioning and demolition of the Brayton Point Power Station. Although all structures have been removed, the Site has some remaining utility infrastructure and partially constructed stormwater BMPs that were designed as part of the interim phase of the Site's redevelopment. Figure 4.7 illustrates the existing drainage patterns on the Site. The Site is divided into drainage areas which ultimately flow to either the Taunton River or Mount Hope Bay. The Site is separated from the Lee River by a constructed discharge channel associated with the previous development on the site, which intercepts discharge from the western portion of the Site and outlets to Mount Hope Bay.

Proposed Drainage Conditions

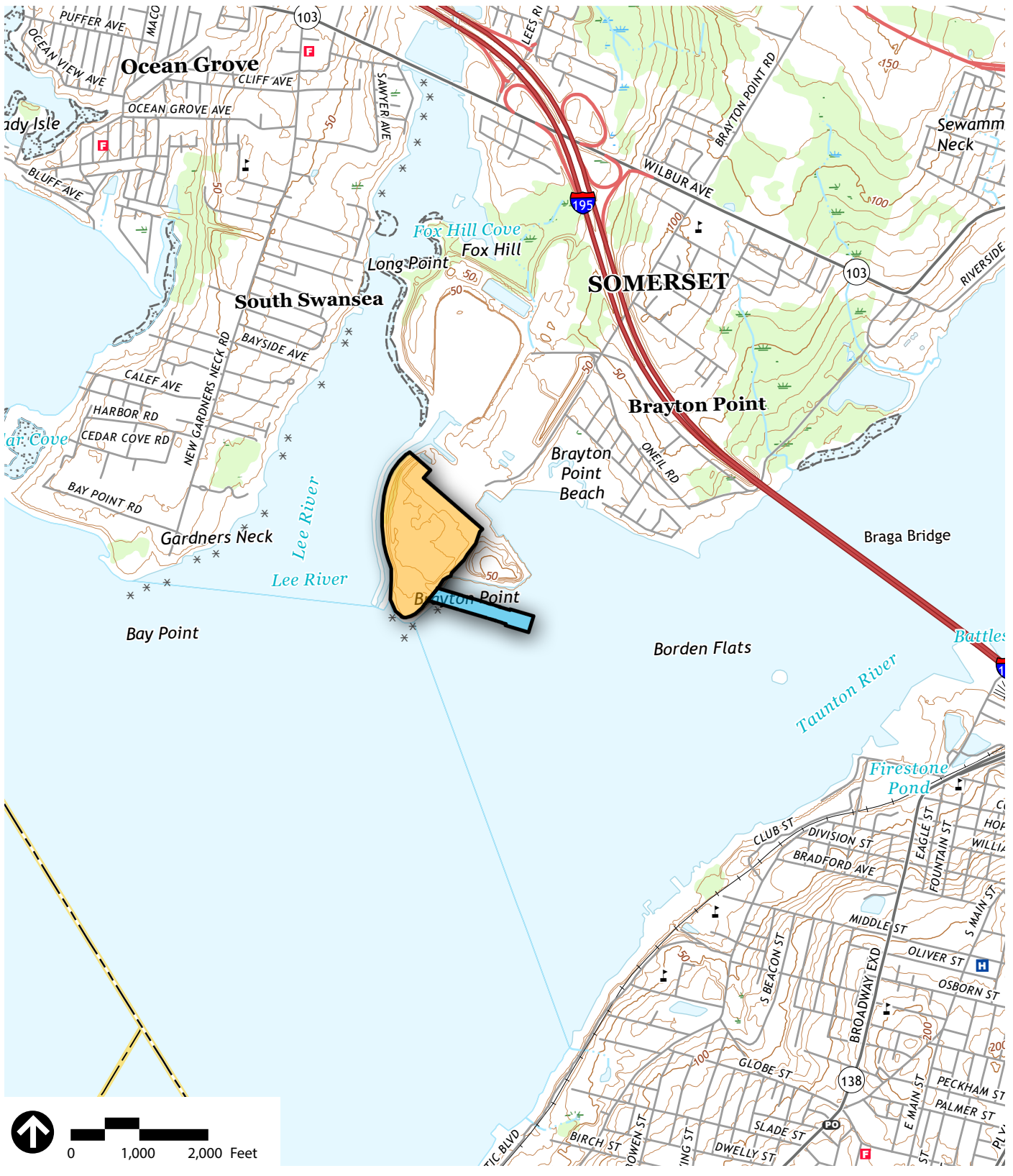
Figure 4.8 illustrates the proposed post-construction drainage conditions for the project. As shown, the Site will be divided into discrete drainage areas that discharge treated stormwater to the Taunton River or Mount Hope Bay. The project proposes the repurposing of three existing drainage outfalls on the Site; two that discharge directly to Taunton River, and one that discharges to Mount Hope Bay via the existing constructed drainage channel. One additional outfall is proposed that also discharges treated water to the drainage channel.

The site design integrates a comprehensive stormwater management system that has been developed in accordance with the Massachusetts Stormwater Handbook. Because the Project is considered a LUHPPL, the proposed stormwater management system has been designed to treat the one-inch Water Quality Volume.

Environmentally Sensitive and Low Impact Development (LID) Techniques

Low Impact Development (LID) techniques and stormwater Best Management Practices (BMPs) implemented into the site design include minimized disturbance to existing trees and vegetation. The project proposes the repurposing of 3 existing drainage outfalls on the Site to reduce impact to coastal resources. The majority of stormwater from the proposed impervious surfaces is captured in deep-sump and hooded catch basins, piped to a sediment forebay, and treated through a surface sand filter prior to discharge from the Site. In limited areas, a proprietary pretreatment unit and precast subsurface sand filter will be used to provide water quality. Where possible, vegetated conveyance swales will be used to collect runoff around the perimeter of the site. Please refer to the TSS removal worksheets in the Appendix for the full water quality treatment train. Also provided are details of the proposed water quality BMPs.

Figure 1.1 Site Locus Map



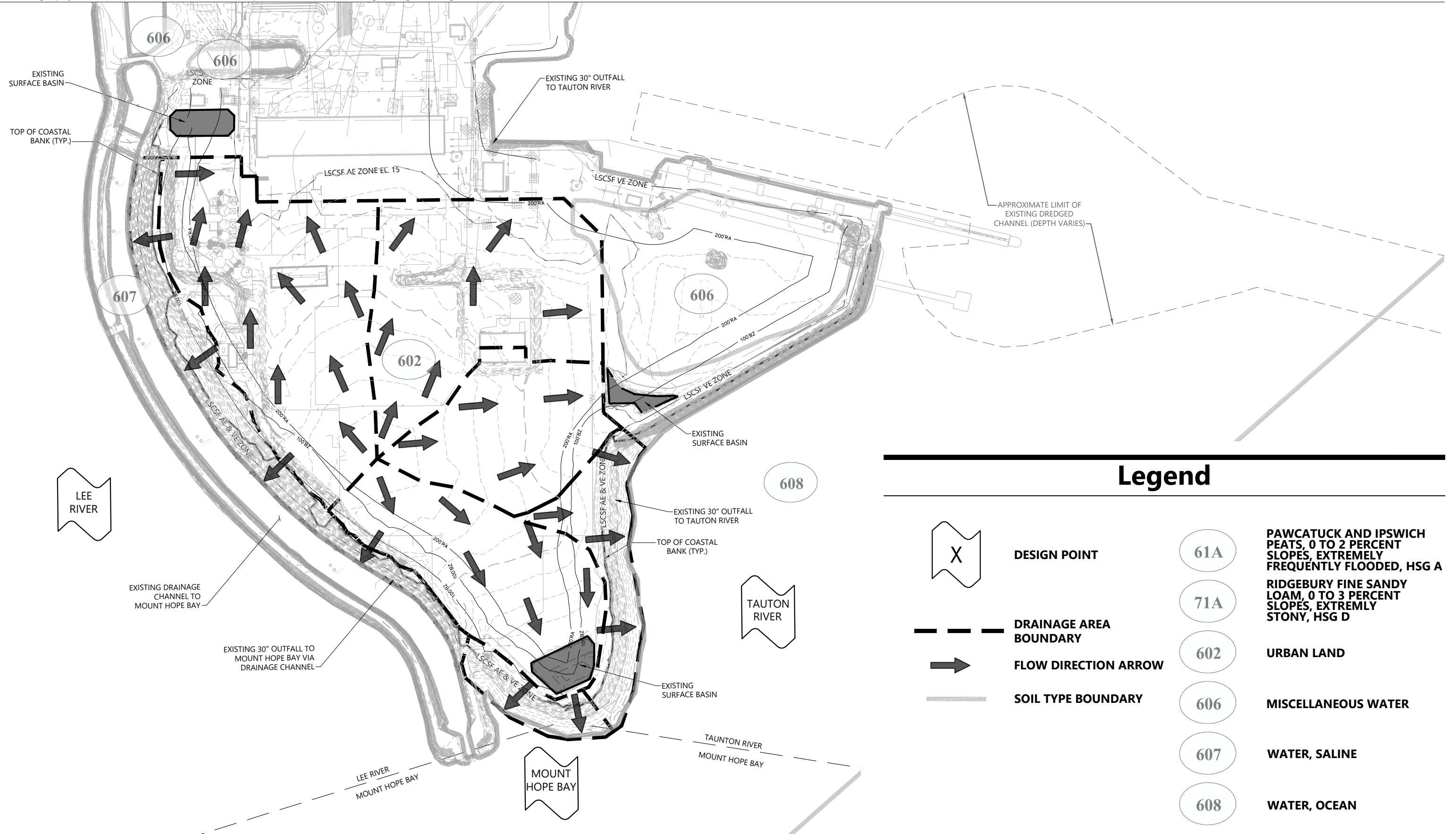
Source: USGS topo (Fall River 2021 quadrangle)

-  Project Site
-  Adjacent In-Water Area

Figure 1.1
Site Location

**Prysmian Brayton Point
Somerset, Massachusetts**

Figure 4.7 Existing Drainage Area



Legend

	DESIGN POINT		PAWCATUCK AND IPSWICH PEATS, 0 TO 2 PERCENT SLOPES, EXTREMELY FREQUENTLY FLOODED, HSG A
	DRAINAGE AREA BOUNDARY		RIDGEBURY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES, EXTREMELY STONY, HSG D
	FLOW DIRECTION ARROW		URBAN LAND
	SOIL TYPE BOUNDARY		MISCELLANEOUS WATER
			WATER, SALINE
			WATER, OCEAN

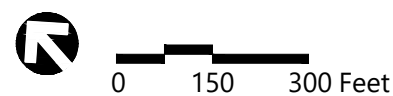
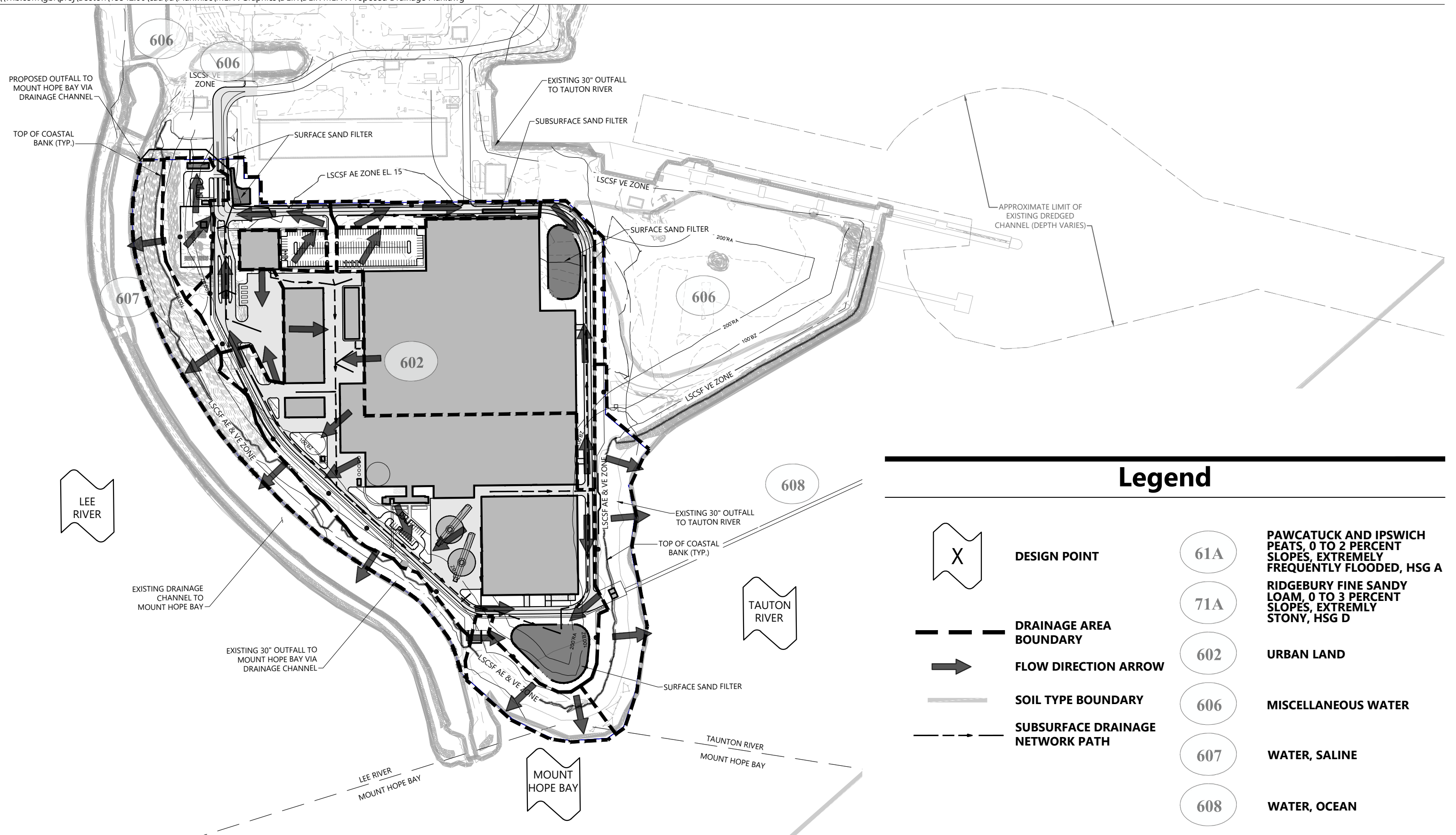
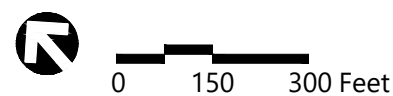


Figure 4.8 Proposed Drainage Area



Legend	
	DESIGN POINT
	DRAINAGE AREA BOUNDARY
	FLOW DIRECTION ARROW
	SOIL TYPE BOUNDARY
	SUBSURFACE DRAINAGE NETWORK PATH
	PAWCATUCK AND IPSWICH PEATS, 0 TO 2 PERCENT SLOPES, EXTREMELY FREQUENTLY FLOODED, HSG A
	RIDGEBURY FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES, EXTREMELY STONY, HSG D
	URBAN LAND
	MISCELLANEOUS WATER
	WATER, SALINE
	WATER, OCEAN



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Regulatory Compliance

Massachusetts Department of Environmental Protection (DEP) – Stormwater Management Standards

As demonstrated below, the proposed Project fully complies with the DEP Stormwater Management Standards.

Standard 1: No New Untreated Discharges or Erosion to Wetlands

The Project has been designed to comply with Standard 1.

The Best Management Practices (BMPs) included in the proposed stormwater management system have been designed in accordance with the Massachusetts Stormwater Handbook. Supporting information and computations demonstrating that no new untreated discharges will result from the Project are presented through compliance with Standards 4 through 6.

All proposed Project stormwater outlets and conveyances have been designed to not cause erosion or scour to wetlands or receiving waters. Outlets from closed drainage systems have been designed with flared end sections and stone protection to dissipate discharge velocities. Overflows from BMP's that impound stormwater have been designed with stone to protect downgradient areas from erosion.

Standard 2: Peak Rate Attenuation

The Project's peak rate attenuation and volume control requirements are waived per the MA Stormwater Handbook Volume 1, Chapter 1 as the Project Site is currently within it is located on land subject to coastal storm flowage.

Standard 3: Stormwater Recharge

The Project has been designed to comply with Standard 3 to the maximum extent practicable because the site is composed of Hydrologic Soil Group C and D soils and bedrock near the land surface.

Standard 4: Water Quality

The proposed stormwater management system implements a treatment train of BMPs that has been designed to provide 80% TSS removal of stormwater runoff from all proposed impervious surfaces. Refer to the attached Appendix for TSS removal worksheets and water quality BMP details.

Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

The Project is considered a LUHPPL and therefore has been designed with suitable BMPs sized to treat the 1-inch Water Quality Volume.

Standard 6: Critical Areas

The Project will discharge treated storm water [near/to] a critical area and therefore has been designed with suitable BMPs sized to treat the 1 inch Water Quality Volume and provide the pretreatment requirement of 44% TSS removal prior to infiltration. Proposed source controls and pollution prevention measures have been identified in the Long-Term Pollution Prevention Plan included in Appendix D.

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the Maximum Extent Practicable

Although this Site was previously developed as the Brayton Point Power Plant, that development has since been demolished and this project is being designed as a new development. The Project has been designed to comply with Stormwater Management Standard 3 to the maximum extent practicable. The remaining Standards will be met fully. Refer directly to each Standard for applicable computations and supporting information demonstrating compliance with each.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Controls

The Project will disturb in excess of one acre of land and is therefore required to obtain coverage under the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit. As required under this permit, a Stormwater Pollution Prevention Plan (SWPPP) will be developed and submitted before land disturbance begins.

Standard 9: Operation and Maintenance Plan

In compliance with Standard 9, a Post Construction Stormwater Operation and Maintenance (O&M) Plan will be developed for the Project.

Standard 10: Prohibition of Illicit Discharges

Sanitary sewer and storm drainage structures remaining from previous development which are part of the redevelopment area will be removed or will be incorporated into updated sanitary sewer and separate stormwater sewer systems. They will be designed so that the components included therein are in full compliance with current standards. No statement is made with regard to the drainage system in portions of the site not included in the redevelopment project area. The Long-Term Pollution Prevention Plan will include measures to prevent illicit discharges.



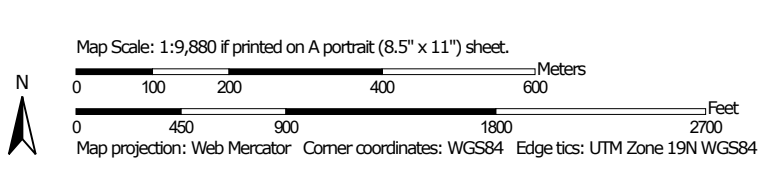
Appendix

NRCS Soil Survey

Hydrologic Soil Group—Bristol County, Massachusetts, Southern Part
(Brayton Point)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bristol County, Massachusetts, Southern Part
 Survey Area Data: Version 15, Sep 2, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 8, 2019—Jul 16, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
61A	Pawcatuck and Ipswich peats, 0 to 2 percent slopes, very frequently flooded	A/D	14.5	3.9%
71A	Ridgebury fine sandy loam, 0 to 3 percent slopes, extremely stony	D	10.2	2.8%
325B	Newport loam, 3 to 8 percent slopes	B	8.0	2.2%
346B	Pittstown loam, 0 to 8 percent slopes, very stony	C	2.6	0.7%
602	Urban land		126.6	34.4%
606	Miscellaneous water		19.4	5.3%
607	Water, saline		6.4	1.7%
608	Water, ocean		121.5	33.0%
651	Udorthents, smoothed	A	59.0	16.0%
Totals for Area of Interest			368.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Onsite Subsurface Soil Evaluation

MEMO

Project name **Phase III ESA – Brayton Point**
Project no. **330003274**
Client **Prysmian Cables and Systems USA, LLC**
Memo no. **01**
Version **02**
To **Scott Lindgren**
From **Victor Warner**
Copy to **Dave Farber**
Bill Monette
Jason Currier
Chris Norton

Prepared by **Victor Warner**
Checked by **Dave Farber**
Approved by **Bill Monette**

Date July 12, 2022

1 Introduction

This memorandum summarizes the results of a subsurface investigation and evaluation completed by Ramboll Americas Engineering Solutions, Inc. (Ramboll) in connection with the stormwater design for Prysmian S.p.A (Prysmian) proposed manufacturing facility to be located at the Brayton Point property located at One Brayton Point, Somerset, Massachusetts (the "Site").

Ramboll
333 West Washington Street
Syracuse, NY 13202
USA

2 Background

The Site is the location of the former Brayton Point Power Station ("the Power Station"), a 1,600 MW coal-fired power plant that operated from 1963 until its retirement in June of 2017. In 2018, the Power Station was purchased by Commercial Development Company, Inc. (CDC) who began the process of demolishing the Power Station to accommodate future industrial use on the property. The demolition began in September 2018 and culminated in the implosion of the Power Station's 500-foot-tall cooling towers in April 2019.

T 315-956-6100
F 315-463-7554
<https://ramboll.com>

The Site includes approximately 47 acres of the 300-acre overall property formerly occupied by the Power Station and associated infrastructure. The Site is located at the southern end of Brayton Point and is bounded on the west by the Lee River, on the south by Mount Hope Bay, on the east by the Taunton River, and on the north by the remainder of the former Power Station property. The future Prysmian Brayton Point Project would include a new marine terminal, which would consist of an in-water cable-delivery system (i.e., a pier structure) that would allow sub-sea power cable to be transferred to a cable laying vessel for delivery and installation.

3 Subsurface Investigation

The subsurface conditions at the Site where stormwater storage and/or treatment structures are proposed were evaluated based on an investigation program conducted from June 23, 2022, through June 27, 2022. The subsurface investigation consisted of 31 test pits completed by Terracon Consultants, Inc (Terracon) at the locations indicated on the figure titled Geotechnical Surveys, attached as Appendix 1.

The test pits were excavated utilizing a CAT E-695 excavator. A representative from Ramboll was on-site to observe the test pit activities and log the subsurface conditions at each test pit location. All soils were visually classified utilizing the Unified Soil Classification System. No soil samples were collected, and no percolation tests were performed as part of this investigation. The test pit logs are provided as Appendix 2.

4 Subsurface Conditions

The subsurface conditions at the site generally consisted of approximately 2 to 3 feet of loose to medium dense fill consisting primarily of silty sand (SM) with little to some gravel. Below the fill the soils generally consisted of a dense sandy silt (SM-ML) with varying amounts of gravel or weathered shale. Bedrock was encountered in 30 of the 31 test pit locations at depths ranging from 10 inches to 11 feet 6 inches below ground surface (bgs), with an average depth of approximately 5.0 feet bgs. The bedrock depth for each is summarized below in Table 1. Test pit location TP-4.6 was terminated before encountering bedrock as two unmarked steel utility pipes were encountered at approximately 8 feet below grade.

During test pitting, several of the test pits were relocated due to the presence of underground pavement or concrete slabs. Several underground utilities were encountered throughout the subsurface investigation. The test pit logs included as Appendix 2 detail the approximate relocation and structures encountered as noted.

Groundwater was not observed in any of the test pit locations. Based on these observations and our understanding of the proposed work, it is not anticipated that groundwater will be encountered during construction. Fluctuations in groundwater level may occur due to seasonal variations in rainfall amount, runoff, and other factors and should be considered at the time of construction.

Table 1: Depth to Bedrock Summary

Test Pit ID	Approximate Depth to Bedrock BGS	Test Pit ID	Approximate Depth to Bedrock BGS
1.1	4'2"	5.1	7'10"
1.2	4'2"	5.2	6'8"
1.3	5'2"	5.3	3'4"
2.1	5'0"	5.4	6'6"
2.2	1'3"	5.5	5'3"

2.3	1'10"	5.6	7'0"
2.4	1'8"	5.7	6'4"
2.5	10"	5.8	5'0"
4.1	4'8"	5.9	7'10"
4.2	8'8"	6.1	4'0"
4.3	5'2"	6.2	1'2"
4.4	11'6"	6.3	1'8"
4.5	8'5"	7.1	3'8"
4.6	BNE	7.2	3'6"
4.7	5'9"	7.3	5'7"
4.8	6'8"		

Notes:

1 – Bedrock Not Encountered (BNE)

5 Summary of Results

Based on the subsurface conditions observed and detailed above in the test pits, and the Hydraulic Soil Group definitions detailed in Chapter 7 *Hydrologic Soil Groups* of the United States Department of Agriculture (USDA) Part 360 Hydrology National Engineering Handbook, the soils at the site would generally be categorized as soil group B or C. Ramboll recommends that the soils be classified as Soil Group C.

According to Table 7-1 and 7-2 of Chapter 7 *Hydrologic Soil Groups* of the United States Department of Agriculture (USDA) Part 360 Hydrology National Engineering Handbook, the saturated hydraulic conductivity for hydraulic soil group C soils depending on the depth to a water impermeable layer and high-water table is summarized in Table 2.

Table 2: Criteria for Hydraulic Soil Group C Soils

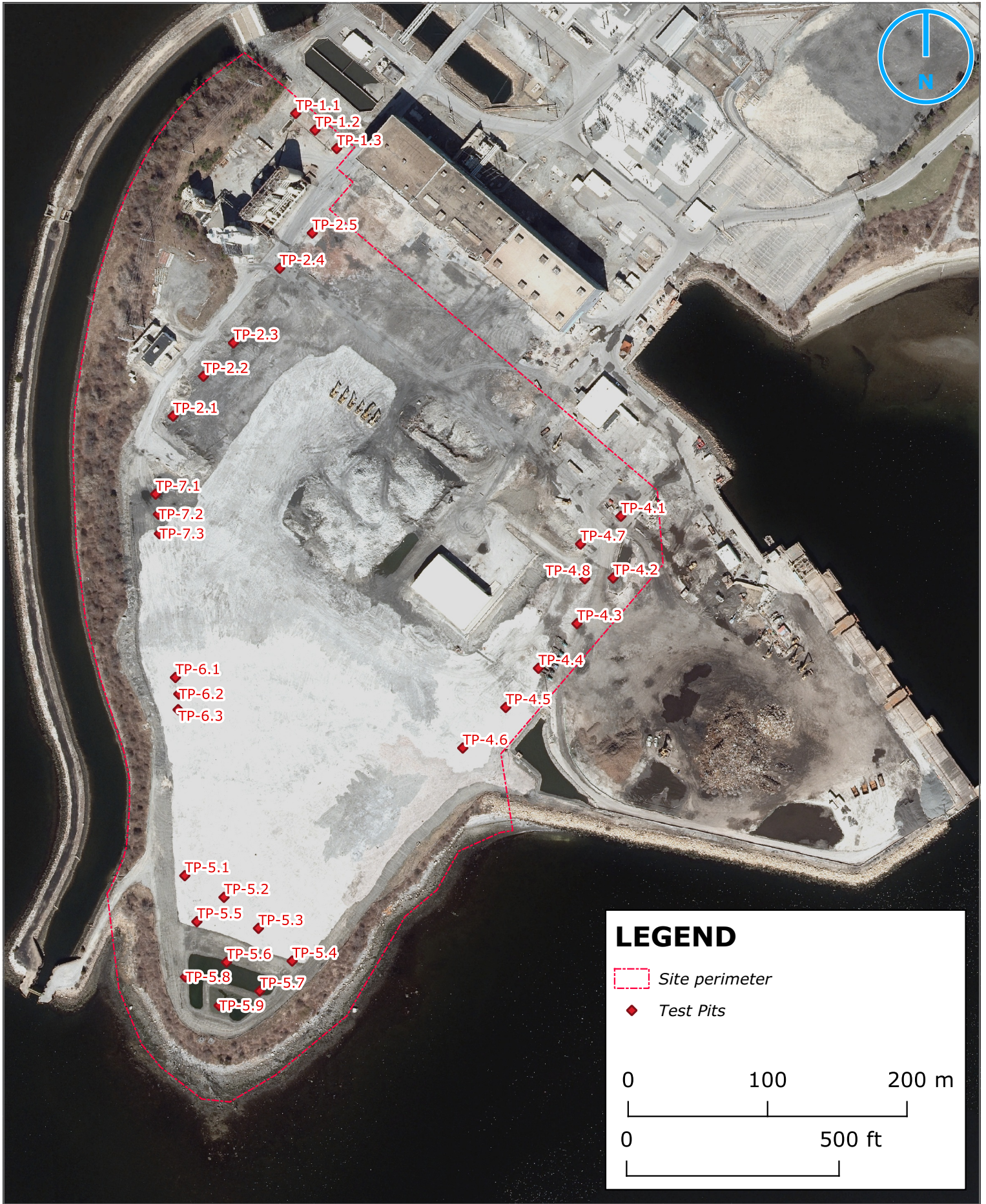
Depth to Water Impermeable Layer (in)	Depth to High Water Table (in)	Saturated Hydraulic Conductivity of the Least Transmissive Layer (in/hr)
20 to 40	24 to 40	<1.42 to >0.14
Greater than 40	Greater than 40	<0.57 to >0.06

Alternatively, Table 2.3.3 of the Massachusetts Stormwater Handbook Volume 3: Documenting Compliance with the Massachusetts Stormwater Management Standard (Massachusetts Stormwater

Handbook) provides infiltration rates based on the soil texture class and the corresponding hydrologic soil group. Based on the soil definitions provided in the USDA Soil Mechanics Level I Module USDA Textural Classification Study Guide and the soil descriptions provided in the test pit logs, the soils would generally be defined as a sandy loam to a silty loam. Ramboll recommends utilizing the values specified for the silty loam soil type. Based on Table 2.3.3 of the Massachusetts Stormwater Handbook, this would result in the soils being categorized as Type C soils, with an infiltration rate of 0.27 inches per hour.

It is recommended that the saturated hydraulic conductivity or infiltration rate should be selected based on the select location and the corresponding depth to bedrock. Also, while no groundwater was encountered during the subsurface investigation, actual subsurface conditions may vary from those anticipated based on the test pits.

**APPENDIX 1
GEOTECHNICAL SURVEY LOCATIONS**



LEGEND

- Site perimeter
- ◆ Test Pits

0 100 200 m

0 500 ft

NOTES:
 Basemap: MA Gov Aerial 2021
 Coordinate System: NAD 83

**GEOTECHNICAL SITE
 ASSESSMENT FOR
 STORMWATER
 MANAGEMENT**

TEST PITS LOCATIONS



**Brayton Point, Somerset
 Massachusetts**

RAMBOLL CONSULTING INC.

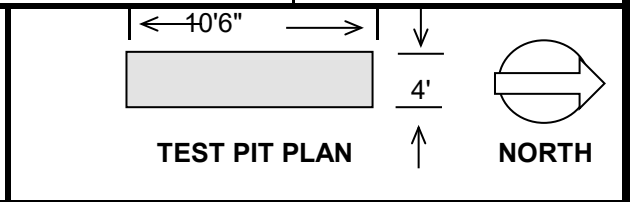


**APPENDIX 2
TEST PIT LOGS**

PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 2:02p.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 2:20p.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown/grey loose cmf sand and gravel fill, little silt, dry	
2		SM	Light brown/grey medium dense sand and gravel fill, little silt, dry	
3		SM-ML	Dark brown/black dense sandy silt, some shale fragments, little clay, moist.	
4		SM-ML	Dark brown/black dense sandy silt, some shale fragments, little clay, moist.	
4'2"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
5				
7				
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12				
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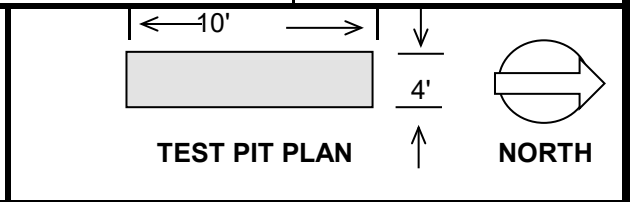
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 4'2". No water table encountered. Test pit moved 5' north of original location. Corrugated steel pipe uncovered during test pit. Not damaged and filled back in.



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 1:50p.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 2:00p.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown loose silty cmf sand fill, some gravel, dry	
2		SM	Light brown loose silty cmf sand fill, some gravel, dry	
3		SM	Light brown loose silty cmf sand fill, some gravel, dry	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
4'2"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
5				
7				
8				
9				
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11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 4'2". No water table encountered. Test pit moved 5' north of original location.

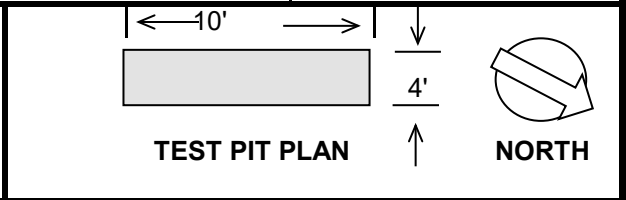


RAMBOLL	TEST PIT LOG	TEST PIT TP-1.3
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 1:25p.m	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 1:45p.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown/grey medium dense sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown/grey medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5'2"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
7				
8				
9				
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'". No water table encountered. Test pit moved 5' north of original location.

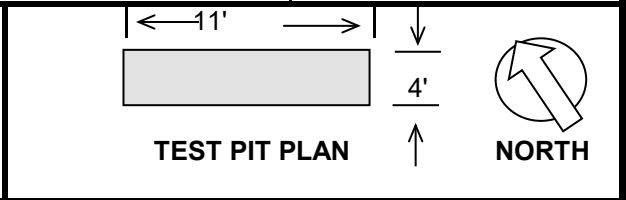


RAMBOLL	TEST PIT LOG	TEST PIT TP-2.1
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 11:02a.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 11:18a.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	2" of light brown sand and gravel at grade. Dark brown/black dense sandy silt, some gravel,moist	
2		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
3		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
6				
7				
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9				
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11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'0". No water table encountered





TEST PIT LOG

TEST PIT

TP-2.2

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysman Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 11:20a.m.

DATE STARTED: 6-24-22

INSPECTOR: Chris Norton

TIME FINISHED: 11:30a.m.

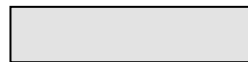
DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown loose fine sand with silt, some gravel dry.	
1'3"		SM-ML	Light brown medium dense sand with silt and weathered shale, dry Test pit terminated at top of rock.	
3				
4				
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11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 1'3". No water table encountered

← 8' →



TEST PIT PLAN

↓

4'

↑



NORTH



TEST PIT LOG

TEST PIT

TP-2.3

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysman Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 11:30a.m.

DATE STARTED: 6-24-22

INSPECTOR: Chris Norton

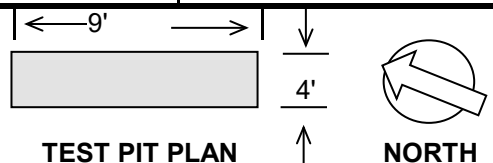
TIME FINISHED: 11:42a.m.

DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown loose fine sand with silt, some gravel dry.	
1'10"		SM-ML	Light brown medium dense sand with silt and weathered shale, dry Test pit terminated at top of rock.	
3				
4				
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12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 1'10". No water table encountered





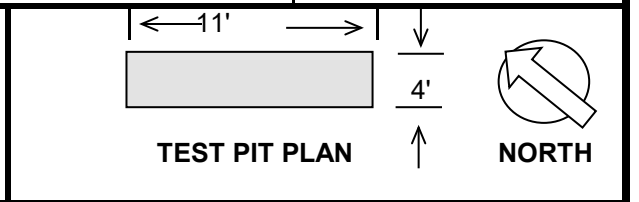
TEST PIT LOG

TEST PIT TP-2.4

PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysman Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 12:50p.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 1:15p.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown loose fine sand with silt, some gravel dry.	
1'8"		SM-ML	Light brown medium dense sand with silt and weathered shale, dry Test pit terminated at top of rock.	
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11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 1'8". No water table encountered. Test pit moved approximately 25' south east from original location to avoid asphalt and concrete slab.





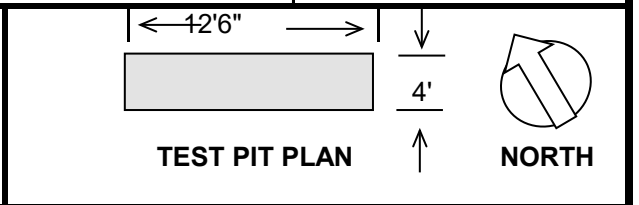
TEST PIT LOG

TEST PIT NO. TP-2.5

PROJECT: Phase III ESA - Brayton Point, Somerset MA	JOB NO.: 330003274□	
CLIENT: Prysmian Cables and Systems USA, LLC	GROUND ELEV.:	
CONTRACTOR: Terracon	DATUM:	
EQUIPMENT: Cat E-695	GROUND WATER DEPTH: NE	
OPERATOR: John Riendeau	TIME STARTED: 1:11p.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 1:25p.m	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
10"-15"		SM	Light brown medium dense sand with silt and weathered shale, dry Test pit terminated at top of rock. Bed rock depth varied with varying grade change through test pit. Depth 10"-15".	
2				
3				
4				
5				
6				
7				
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14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 10"-15" No water table encountered. Test pit moved approximately 15' east from original location to avoid asphalt and concrete slab.





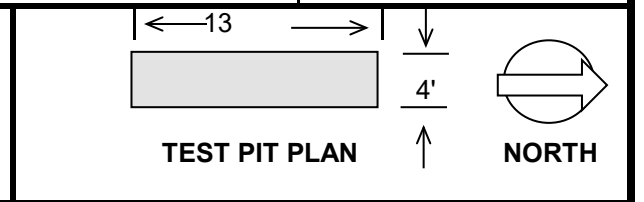
TEST PIT LOG

TEST PIT TP-4.1

PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 7:20a.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 7:45a.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	3" Brown loose sandy silt fill, little clay, little gravel, moist. 3" light brown loose sand lense. 6" Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
3		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
4'8"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
6				
7				
8				
9				
10				
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12				
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14				

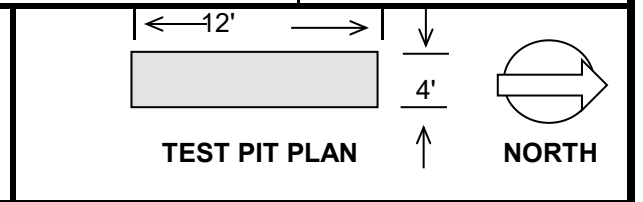
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 4'8". No water table encountered. Test pit relocated 30' east of original location outside limits of concrete and asphalt.



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 8:10a.m.	DATE STARTED: 6-27-22
INSPECTOR: Chris Norton	TIME FINISHED: 8:40a.m.	DATE FINISHED: 6-27-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Grey loose gravel and sand with brick and other misc. fill, dry	
2		SM-ML	Brown/grey medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Brown/grey medium dense silty sand fill, little clay, little gravel, moist	
4		SM	Light brown medium dense mf sand little silt, moist	
5		SM	Light brown medium dense mf sand little silt, moist	
6		SM	Light brown medium dense mf sand little silt, moist	
7		SM	Light brown medium dense mf sand little silt, moist	
8		SM	Light brown medium dense mf sand little silt, moist	
8'8"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 6'8". No water table encountered. 4" pipe uncovered in south part of test pit, damaged but abandoned hydrant line left in place, some residual water. Pit continued further north to avoid.

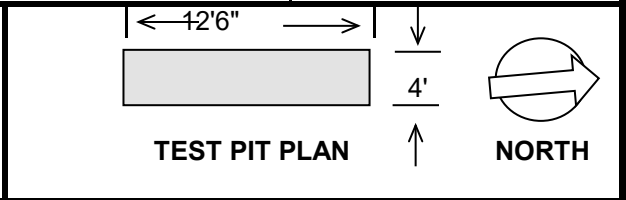


RAMBOLL	TEST PIT LOG	TEST PIT	TP-4.3
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PROJECT: Phase III ESA - Brayton Point, Somerset MA	JOB NO.: 330003274□	
CLIENT: Prysmian Cables and Systems USA, LLC	GROUND ELEV.:	
CONTRACTOR: Terracon	DATUM:	
EQUIPMENT: Cat E-695	GROUND WATER DEPTH: NE	
OPERATOR: John Riendeau	TIME STARTED: 8:11a.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 8:30a.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5'2"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
7				
8				
9				
10				
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12				
13				
14				

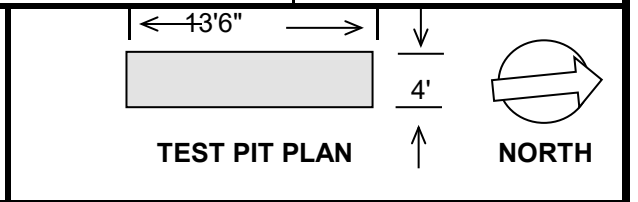
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'2". No water table encountered



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.:	330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:	
CONTRACTOR: Terracon		DATUM:	
EQUIPMENT: Cat E-695		GROUND WATER DEPTH:	NE
OPERATOR: John Riendeau	TIME STARTED: 8:25a.m.	DATE STARTED:	6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 8:57a.m	DATE FINISHED:	6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt, some gravel, dry	
2		SM-ML	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
5		SM	Brown loose cmf sand, some silt, trace gravel, dry	
6		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
7		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
8		SM	Dark brown dense cmf sand some silt, little gravel, moist	
9		SM	Dark brown dense cmf sand some silt, little gravel, moist	
10		SM	Dark brown dense cmf sand some silt, little gravel, moist	
11		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
11'6"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
13				
14				

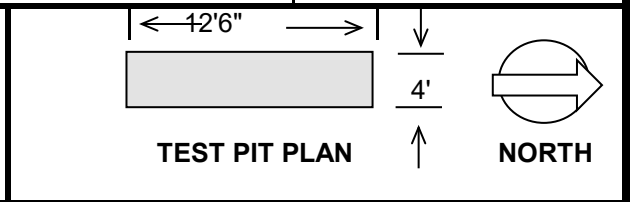
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 11'6". No water table encountered



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 2:30p.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 2:50p.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt, some gravel, dry	
2		SM-ML	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
6		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
7		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
8		SM-ML	Dark brown/black dense sandy silt, some shale fragments, little clay, moist.	
8'5"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
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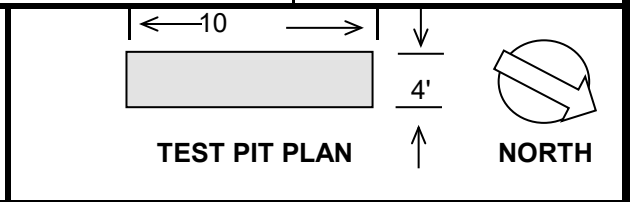
TEST PIT LOCATION AND NOTES:
 4 unmarked yellow covered steel utility pipes uncovered 7' below grade at original location. Test pit mover approximately 23' north of original location. Test pit terminated at top of shale 8'5" below grade.



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 9:35a.m.	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 10:15a.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt, some gravel, dry	
2		SM-ML	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, cobbles in layer, moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
6		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
7		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
8		SM-ML	Dark brown/black dense sandy silt, some gravel, moist. Test pit terminated at 8' due to uncovering of two steel yellow pipes. No utilities marked in area.	
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TEST PIT LOCATION AND NOTES:
 2 unmarked yellow covered steel utility pipes uncovered 8' below grade at original location. Based on TP-4.5, pipes should be set 6" above shale. Shale approximately 8.75'-9' below grade.

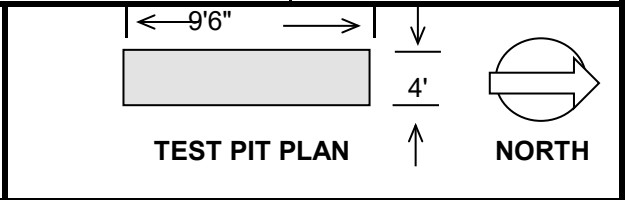


RAMBOLL	TEST PIT LOG	TEST PIT	TP-4.7
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.:	330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:	
CONTRACTOR: Terracon		DATUM:	
EQUIPMENT: Cat E-695		GROUND WATER DEPTH:	NE
OPERATOR: John Riendeau	TIME STARTED: 8:50a.m.	DATE STARTED:	6-27-22
INSPECTOR: Chris Norton	TIME FINISHED: 9:25a.m.	DATE FINISHED:	6-27-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Grey loose gravel and sand and other misc. fill, dry	
2		SM-ML	Brown/grey medium dense silty sand fill, little clay, little gravel, moist	
3		SM	Light brown medium dense mf sand little silt, moist	
4		SM	Light brown medium dense mf sand little silt, moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5'9"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
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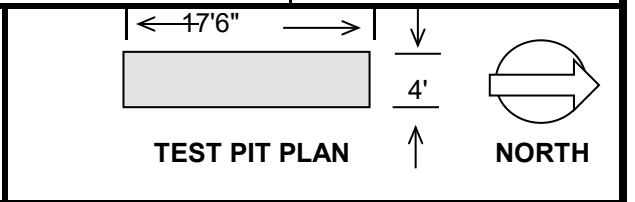
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'9" No water table encountered.



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 7:30a.m.	DATE STARTED: 6-27-22
INSPECTOR: Chris Norton	TIME FINISHED: 8:00a.m.	DATE FINISHED: 6-27-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt, some gravel, dry	
2		SM-ML	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, trace cobble, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
6		SM-ML	Dark brown/black dense sandy silt, some gravel, moist	
6'8"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
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TEST PIT LOCATION AND NOTES:
 Test pit terminated at 6'8". No water table encountered. 18" pipe uncovered in north part of test pit, not damaged. Pit continued further south to avoid.

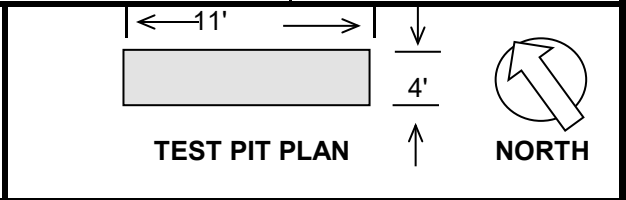


RAMBOLL	TEST PIT LOG	TEST PIT	TP-5.1
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.:	330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:	
CONTRACTOR: Terracon		DATUM:	
EQUIPMENT: Cat E-695		GROUND WATER DEPTH:	NE
OPERATOR: John Riendeau	TIME STARTED: 2:00p.m.	DATE STARTED:	6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 2:20p.m.	DATE FINISHED:	6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Light brown loose sand fill 3" gravel at surface, some silt, dry	
2		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
6		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
7		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
7'10"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
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TEST PIT LOCATION AND NOTES:
 Test pit terminated at 7'10". No water table encountered

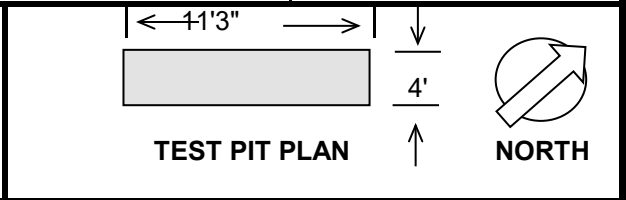


RAMBOLL	TEST PIT LOG	TEST PIT TP-5.2
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PROJECT: Phase III ESA - Brayton Point, Somerset MA	JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC	GROUND ELEV.:
CONTRACTOR: Terracon	DATUM:
EQUIPMENT: Cat E-695	GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 1:25p.m.
INSPECTOR: Chris Norton	TIME FINISHED: 1:50p.m.
	DATE STARTED: 6-23-22
	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Light brown loose sand fill 3" gravel at surface, some silt, dry	
2		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
5		SM-ML	Dark brown/black dense sandy silt with shale, little clay,moist.	
6		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
6'8"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
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11				
12				
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TEST PIT LOCATION AND NOTES:
 Test pit terminated at 6'8". No water table encountered

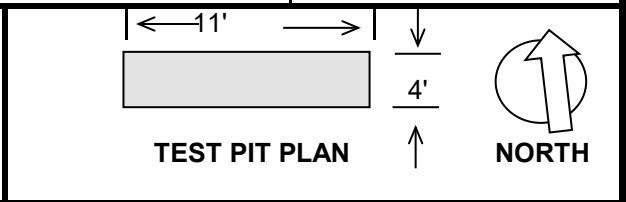


RAMBOLL	TEST PIT LOG	TEST PIT TP-5.3
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 11:20a.m.	DATE STARTED: 6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 11:36 a.m.	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
3'4"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
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TEST PIT LOCATION AND NOTES:
 Test pit terminated at 3'4". No water table encountered

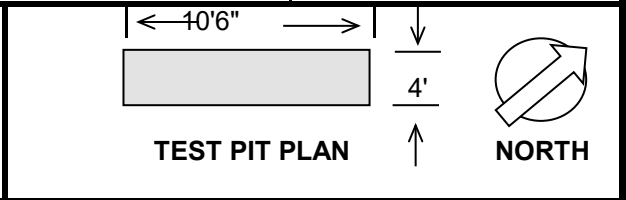


RAMBOLL	TEST PIT LOG	TEST PIT TP-5.4
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 10:50	DATE STARTED: 6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 11:10	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
6		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
6'6"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
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12				
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14				

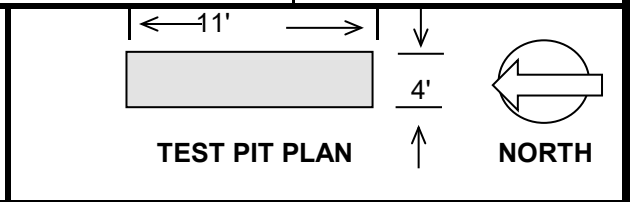
TEST PIT LOCATION AND NOTES:
 Test pit terminated at 6'6". No water table encountered



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 12:40p.m.	DATE STARTED: 6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 1:10p.m.	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, gravel for first 2", moist	
2		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
5'3"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
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TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'3". No water table encountered





TEST PIT LOG

TEST PIT

TP-5.6

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysmian Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 11:30a.m.

DATE STARTED: 6-23-22

INSPECTOR: Chris Norton

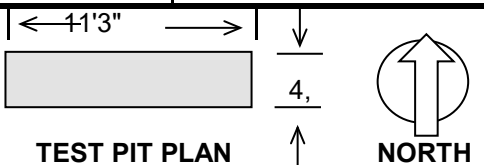
TIME FINISHED: 11:50a.m.

DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
6		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
7		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock at 7'0".	
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12				
13				
14				

TEST PIT LOCATION AND NOTES:

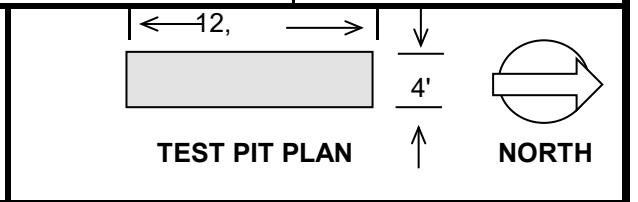
Test pit terminated at 7'0". No water table encountered



PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 10:30 a.m.	DATE STARTED: 6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 10:50 a.m.	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
3		SM	Dark brown dense silty sand and gravel, trace clay, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
5		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
6		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
6'4"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
8				
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11				
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14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 6'4". No water table encountered





TEST PIT LOG

TEST PIT

TP-5.8

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysmian Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 12:30 p.m.

DATE STARTED: 6-23-22

INSPECTOR: Chris Norton

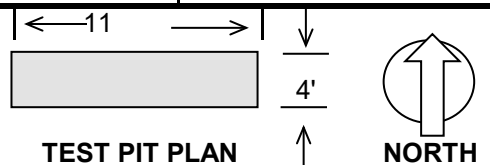
TIME FINISHED: 1:00 p.m.

DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	Light brown loose sand fill some gravel, some silt, dry	
2		SM-ML	Brown medium dense sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist.	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
6				
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12				
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TEST PIT LOCATION AND NOTES:

Test pit terminated at 5'0". No water table encountered

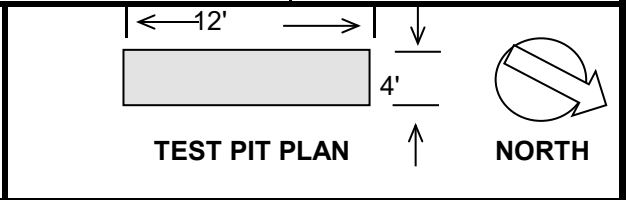


RAMBOLL	TEST PIT LOG	TEST PIT TP-5.9
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 9:28 a.m.	DATE STARTED: 6-23-22
INSPECTOR: Chris Norton	TIME FINISHED: 10:00 a.m.	DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
2		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
3		SM-ML	Brown loose sandy silt fill, little clay, little gravel, moist	
4		SM	Light brown cmf sand some silt, dry	
5		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
6		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
7		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
7'10"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay, moist. Test pit terminated at top of rock.	
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12				
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14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at shale bedrock 7'10". No water table encountered.





TEST PIT LOG

TEST PIT

TP-6.1

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysman Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 2:50p.m.

DATE STARTED: 6-23-22

INSPECTOR: Chris Norton

TIME FINISHED: 3:00 p.m.

DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt,some gravel,dry	
2		SM	Brown medium dense silty sand fill, little clay, little gravel, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
4		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
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11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 4'0". No water table encountered

← 10'7" →



TEST PIT PLAN

↓

4'

↑



NORTH

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Pysmian Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 2:37p.m.

DATE STARTED: 6-23-22

INSPECTOR: Chris Norton

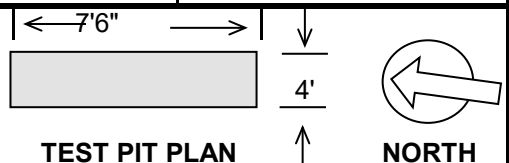
TIME FINISHED: 2:50p.m.

DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt,some gravel,dry	
1'2"		SM	Brown cmf sand fill with silt,some gravel,dry. Test pit terminated at top of shale bedrock.	
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12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 1'2". No water table encountered





TEST PIT LOG

TEST PIT

TP-6.3

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysman Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 2:31p.m.

DATE STARTED: 6-23-22

INSPECTOR: Chris Norton

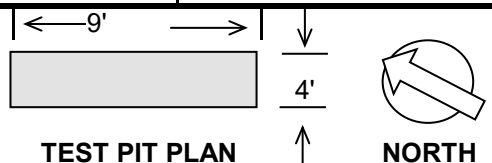
TIME FINISHED: 2:37p.m.

DATE FINISHED: 6-23-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM	3" gravel stones then Brown cmf sand fill with silt,some gravel,dry	
1'8"		SM	Brown cmf sand fill with silt,some gravel,dry. Test pit terminated at top of shale bedrock.	
3				
4				
5				
6				
7				
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9				
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 1'8". No water table encountered





TEST PIT LOG

TEST PIT

TP-7.1

PROJECT: Phase III ESA - Brayton Point, Somerset MA

JOB NO.: 330003274□

CLIENT: Prysmian Cables and Systems USA, LLC

GROUND ELEV.:

CONTRACTOR: Terracon

DATUM:

EQUIPMENT: Cat E-695

GROUND WATER DEPTH: NE

OPERATOR: John Riendeau

TIME STARTED: 10:20a.m.

DATE STARTED: 6-24-22

INSPECTOR: Chris Norton

TIME FINISHED: 10:40a.m.

DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	2" of grey sand and gravel at grade. Dark brown/black dense sandy silt, some gravel,moist	
2		SM-ML	Dark brown/black dense sandy silt, some gravel,moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
3'8"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:

Test pit terminated at 3'8". No water table encountered

← 10'6" →

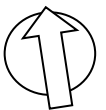


TEST PIT PLAN

↓

4'

↑



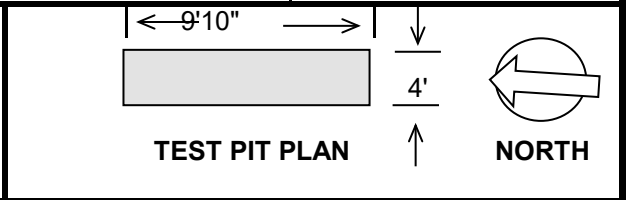
NORTH

RAMBOLL	TEST PIT LOG	TEST PIT TP-7.2
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.: 330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:
CONTRACTOR: Terracon		DATUM:
EQUIPMENT: Cat E-695		GROUND WATER DEPTH: NE
OPERATOR: John Riendeau	TIME STARTED: 10:37a.m	DATE STARTED: 6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 10:51a.m.	DATE FINISHED: 6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	2" of grey sand and gravel at grade. Dark brown/black dense sandy silt, some gravel,moist	
2		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
3		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
3'6"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 3'6". No water table encountered

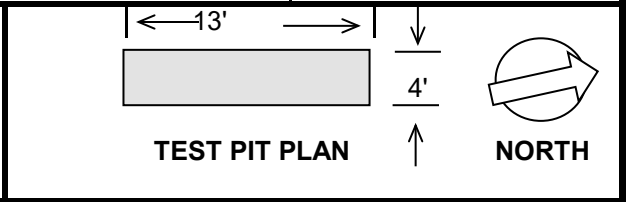


	TEST PIT LOG	TEST PIT	TP-7.3
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PROJECT: Phase III ESA - Brayton Point, Somerset MA		JOB NO.:	330003274□
CLIENT: Prysmian Cables and Systems USA, LLC		GROUND ELEV.:	
CONTRACTOR: Terracon		DATUM:	
EQUIPMENT: Cat E-695		GROUND WATER DEPTH:	NE
OPERATOR: John Riendeau	TIME STARTED: 10:45a.m.	DATE STARTED:	6-24-22
INSPECTOR: Chris Norton	TIME FINISHED: 11:05a.m.	DATE FINISHED:	6-24-22

Depth Ft.	Sample #	Unified Classification	GEOLOGIC DESCRIPTION	REMARKS
1		SM-ML	3" gravel stones then Brown cmf sand fill with silt,some gravel,dry	
2		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
3		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
4		SM-ML	Dark brown/black dense sandy silt, some gravel, some shale fragments, moist	
5		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist.	
5'7"		SM-ML	Dark brown/black dense sandy silt with weathered shale, little clay,moist. Test pit terminated at top of rock.	
7				
8				
9				
10				
11				
12				
13				
14				

TEST PIT LOCATION AND NOTES:
 Test pit terminated at 5'7". No water table encountered



TSS Removal Worksheets

TSS Removal Calculation Worksheet



Vanasse Hangen Brustlin, Inc.
 Consulting Engineers and Planners
 101 Walnut Street
 Watertown, MA 02471
 (617) 924-1770

Project Name: Cable Man. Project
 Project Number: 15542.00
 Location: Somerset, MA
 Discharge Point: _____
 Drainage Area(s): _____

Sheet: 1 of 2
 Date: _____
 Computed by: _____
 Checked by: _____

1. Pre-Treatment prior to Infiltration

BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (B*C)	Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	25%	100%	25%	75%
Sediment Forebay	25%	75%	19%	56%
	0%	56%	0%	56%
Pre-Treatment TSS Removal =				44%

2. Total TSS Removal including Pretreatment 1.

BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (B*C)	Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	25%	100%	25%	75%
Sediment Forebay	25%	75%	19%	56%
Surface Sand Filter	80%	56%	45%	11%
	0%	11%	0%	11%

* BMP and TSS Removal Rate Values from the MassDEP Stormwater Handbook Vol. 1. **Removal rates for proprietary devices are from approved studies and/or manufacturer data (attach study or data source, or remove this sentence if not applicable).**

** Equals remaining load from previous BMP (E)

*** Stormceptor sizing calculation gives a TSS removal rate of 87%. To be conservative, 75% removal is used for this calculation based upon the NJCAT study provided on the MA STEP website. (Change name of device and the claimed removal rate shown on the calc. sheet. ALSO provide backup documentation to support TSS removal rate from the MA STEP website. Remove this sentence if not applicable.)

TSS Removal Calculation Worksheet



Vanasse Hangen Brustlin, Inc.
 Consulting Engineers and Planners
 101 Walnut Street
 Watertown, MA 02471
 (617) 924-1770

Project Name: Cable Man. Project
 Project Number: 15542.00
 Location: Somerset, MA
 Discharge Point: _____
 Drainage Area(s): _____

Sheet: 2 of 2
 Date: _____
 Computed by: _____
 Checked by: _____

1. Pre-Treatment prior to Infiltration

BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (B*C)	Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	25%	100%	25%	75%
CDS Unit	50%	75%	38%	38%
	0%	38%	0%	38%
Pre-Treatment TSS Removal =				63%

2. Total TSS Removal including Pretreatment 1.

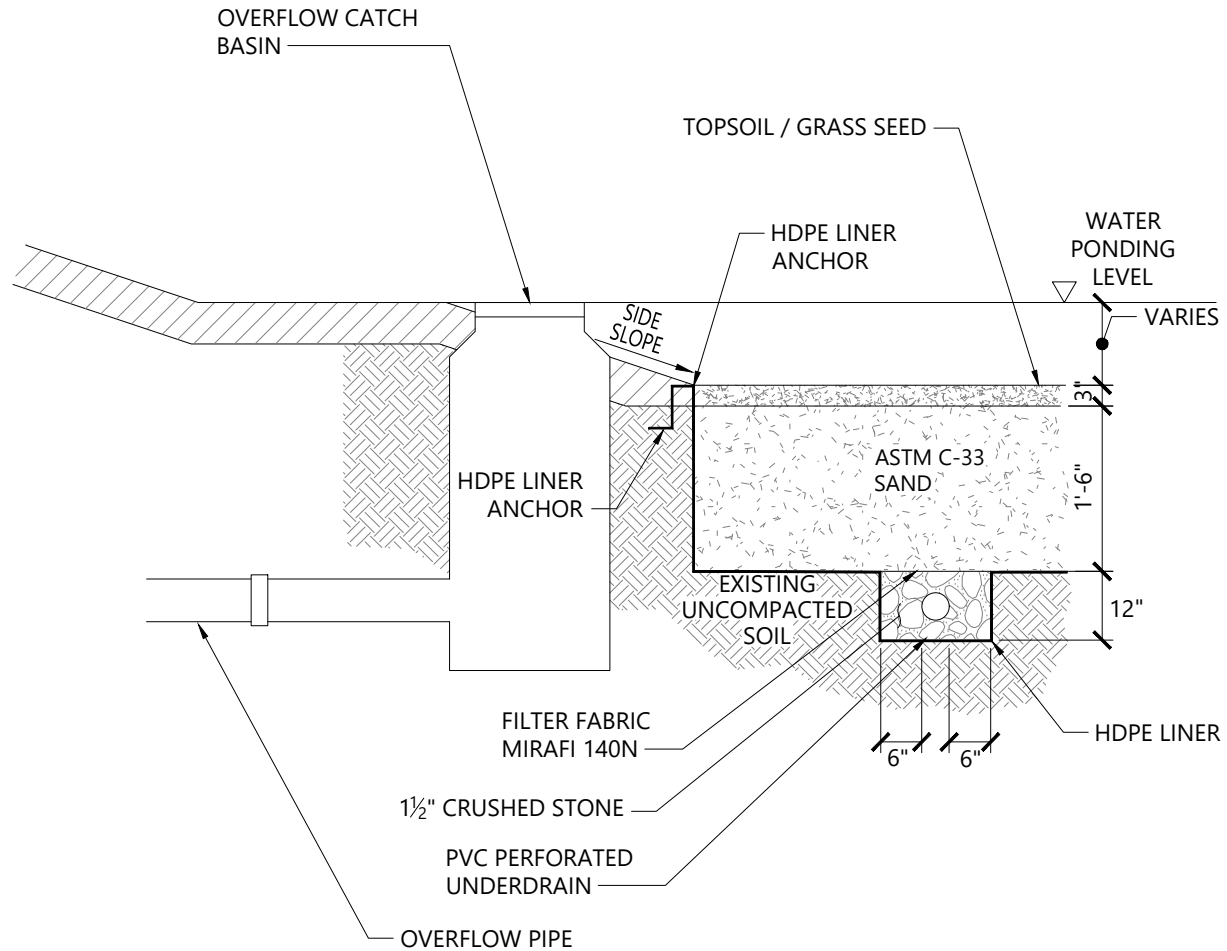
BMP*	TSS Removal Rate*	Starting TSS Load**	Amount Removed (B*C)	Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	25%	100%	25%	75%
CDS Unit	50%	75%	38%	38%
Subsurface Sand Filter	80%	38%	30%	8%
	0%	8%	0%	8%

* BMP and TSS Removal Rate Values from the MassDEP Stormwater Handbook Vol. 1. **Removal rates for proprietary devices are from approved studies and/or manufacturer data (attach study or data source, or remove this sentence if not applicable).**

** Equals remaining load from previous BMP (E)

*** Stormceptor sizing calculation gives a TSS removal rate of 87%. To be conservative, 75% removal is used for this calculation based upon the NJCAT study provided on the MA STEP website. (Change name of device and the claimed removal rate shown on the calc. sheet. ALSO provide backup documentation to support TSS removal rate from the MA STEP website. Remove this sentence if not applicable.)

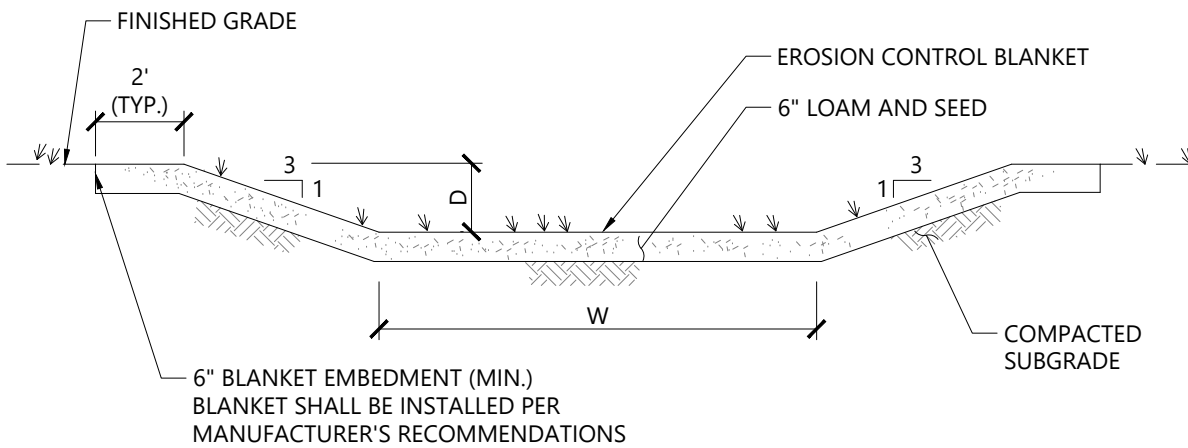
BMP Details

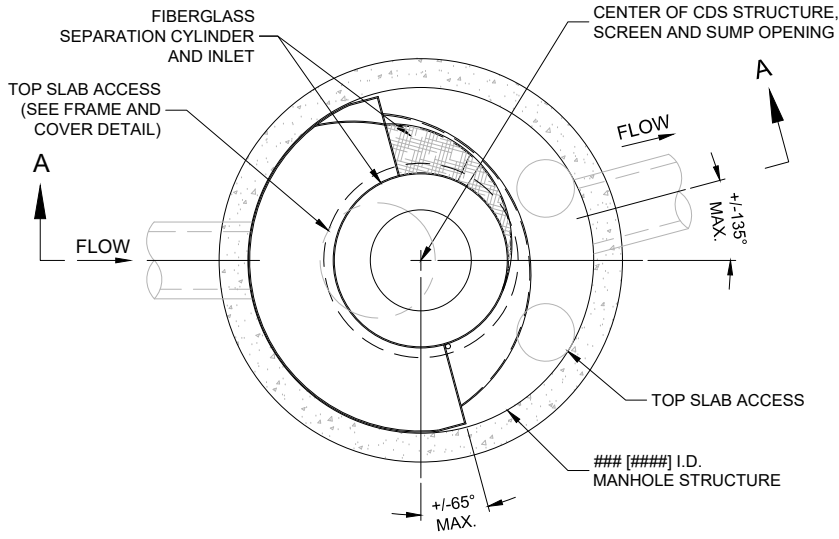


NOTES

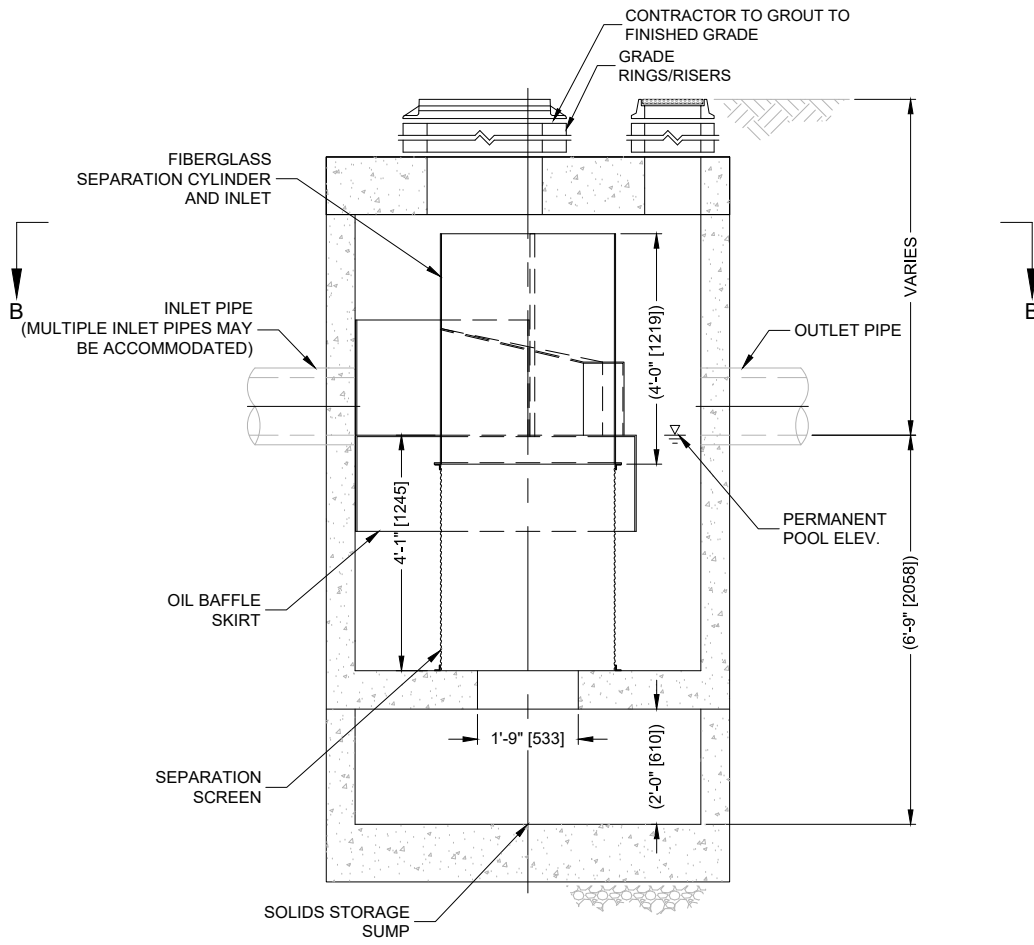
1. INSTALL UNDERDRAINS PER PLAN.
2. SIDE SLOPES SHALL BE 3:1 MAX.







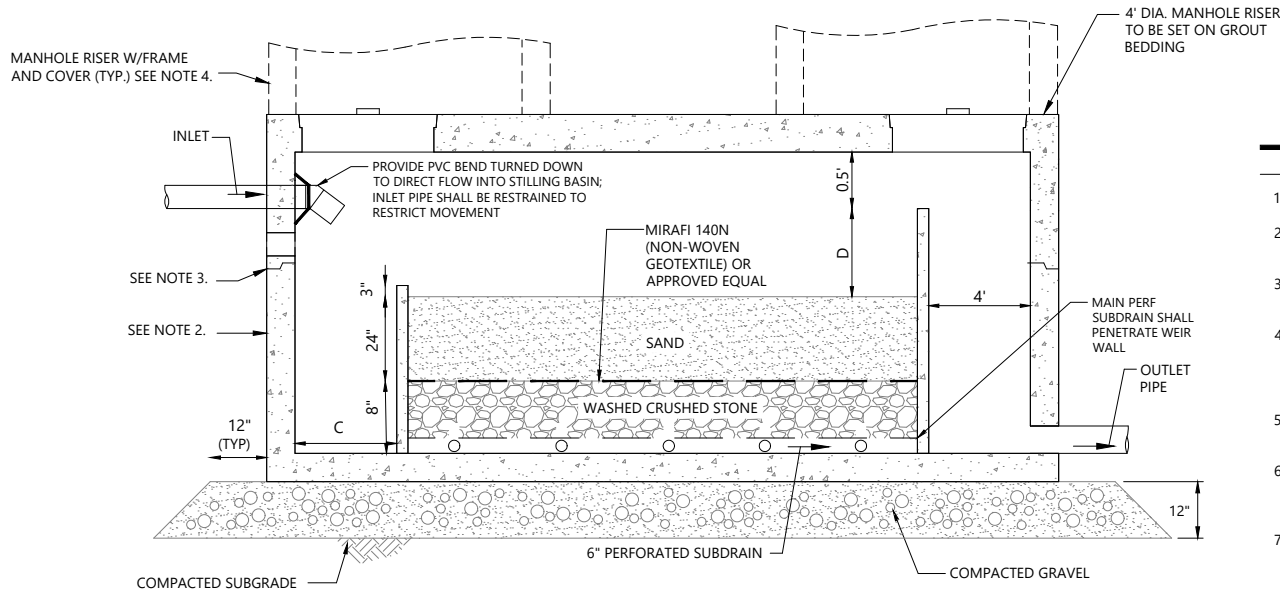
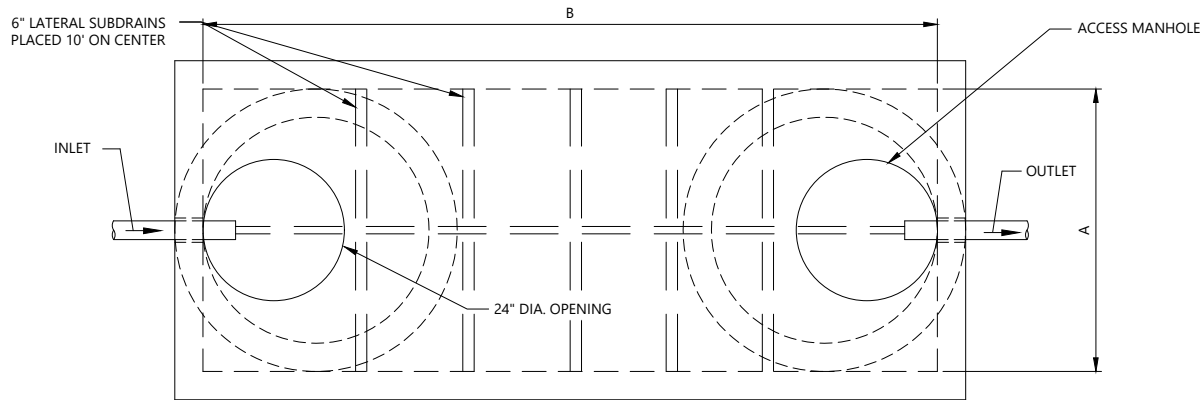
PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.

Contech CDS





Notes:

1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. STANDARD 24-INCH DRAINAGE MANHOLE FRAME AND COVER SHALL BE LOCATED OVER CROSSES AND SET IN FULL MORTAR BED. ADJUST TO GRADE WITH BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
5. PRECAST SECTIONS SHALL BE STORMTRAP DOUBLE TRAP SYSTEMS OR APPROVED EQUAL.
6. MIN SURFACE AREA PROVIDED WITHIN TANK SHALL BE 2,000 SF (DIMENSION AxB), NOT COUNTING INTERIOR AREA USED FOR STRUCTURAL INTEGRITY OF TANK
7. AT LEAST ONE ACCESS MANHOLE SHALL BE LOCATED OVER FOREBAY/SETTLING BASIN, SAND FILTER AND OUTLET.

